

Micro800 Power Requirements⁽¹⁾

Controller/Module	Power Requirement
Micro810 12-point (with or without LCD)	3 W (5V A for AC module)
Micro820 20-point ⁽²⁾ (without plug-ins, max)	5.62 W
Micro830 and Micro850 (without plug-in/expansion I/O)	
10/16-point	5 W
24-point	8 W
48-point	11 W
Plug-in modules, each	1.44 W
Expansion I/O (system bus power consumption)	2085-IQ16 – 0.85 W 2085-IQ32T – 0.95 W 2085-IA8 – 0.75 W 2085-IM8 – 0.75 W 2085-OA8 – 0.90 W 2085-OB16 – 1.00 W 2085-OV16 – 1.00 W 2085-OW8 – 1.80 W 2085-OW16 – 3.20 W 2085-IF4 – 1.70 W 2085-IF8 – 1.75 W 2085-OF4 – 3.70 W 2085-IRT4 – 2.00 W

(1) When setting up a Micro800 system, verify that total power consumption of the controller, plug-in and expansion I/O does not exceed the output power capacity of the power supply used. See [External Power Supply \(2080-PS120-240VAC\) on page 59](#) for power supply specifications.

(2) Micro820 controllers require a maximum of 8.5 W with plug-ins.

Select Micro850 Expansion I/O



The 2085 I/O expansion modules provide superior functionality in a small-sized low-cost package. A variety of digital and analog modules complement and extend the capabilities of Micro850 controllers by maximizing the flexibility of I/O count and type.

Micro850 expansion I/O modules include high density discrete and analog I/O modules, including a high accuracy RTD and Thermocouple module.

There are available solid state output modules which are recommended to reduce switching noise and for applications which require more switching cycles, than relays. Triac outputs are available for AC loads. Sink and source transistor outputs are available for DC loads.

The following section provides the list of available Micro850 expansion I/O modules and their specifications.

Micro850 Expansion I/O Modules

Catalog Number	Type	Description
2085-IA8	Discrete	8-point, 120V AC input
2085-IM8	Discrete	8-point, 240V AC input
2085-OA8	Discrete	8-point, 120/240V AC Triac Output
2085-IQ16	Discrete	16-point, 12/24V DC Sink/Source Input
2085-IQ32T	Discrete	32-point, 12/24V DC Sink/Source Input
2085-OV16	Discrete	16-point, 12/24V DC Sink Transistor Output
2085-OB16	Discrete	16-point, 12/24V DC Source Transistor Output
2085-OW8	Discrete	8-point, AC/DC Relay Output
2085-OW16	Discrete	16-point, AC/DC Relay Output

2085-OV16 Sink and 2085-OB16 Source DC Output Module

Attribute	2085-OV16	2085-OB16
Shipping weight, approx.	220 g (7.76 oz)	
Bus current draw, max	200 mA @ 5V DC	
Wire size	0.25... 2.5 mm ² (22...14 AWG) solid or stranded copper wire rated @ 75 °C (167 °F), or greater, 1.2 mm (3/64 in.) insulation max	
Wiring category ⁽¹⁾	2 – on signal ports	
Terminal screw torque, max	0.5...0.6 Nm (4.4...5.3 lb-in.) ⁽²⁾	
Output circuit type	24V DC sink	24V DC source
Power dissipation, total	5 W	
Power supply	24V DC, Class 2	
Status indicators	16 Yellow channel indicators	
Isolation voltage	50V (continuous), Reinforced Insulation Type, channel to system Type tested @ 720V AC for 60 s	
Enclosure type rating	Meets IP20	
North American temp code	T4	

(1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

(2) RTB hold down screws should be tightened by hand. They should not be tightened using a power tool.

2085-IA8, 2085-IM8, 2085-OA8 AC Input/Output Modules

Attribute	2085-IA8	2085-IM8	2085-OA8
Number of inputs	8		
Dimensions, HxWxD	28 x 90 x 87 mm (1.10 x 3.54 x 3.42 in.)		
Shipping weight, approx.	140 g (4.93 oz)		
Bus current draw, max	5V DC, 150 mA		5V DC, 180 mA
Wire size	0.25... 2.5 mm ² (22...14 AWG) solid or stranded copper wire rated @ 75 °C (167 °F), or greater, 1.2 mm (3/64 in.) insulation max		
Insulation stripping length	10 mm (0.39 in.)		
Wiring category ⁽¹⁾	2 – on signal ports		
Wire type	Copper		
Terminal screw torque, max	0.5...0.6 Nm (4.4...5.3 lb-in.) ⁽²⁾		
Input/output circuit type	120V AC input	240V AC input	120V/240V AC output
Power supply	120V AC	240V AC	120V/240V AC
Power dissipation, total	2.36 W	2.34 W	5.19 W
Enclosure type rating	Meets IP20		

2085-IA8, 2085-IM8, 2085-OA8 AC Input/Output Modules

Attribute	2085-IA8	2085-IM8	2085-OA8
Status indicators	8 yellow indicators		
Isolation voltage	150V (continuous), Reinforced Insulation Type, channel to system Type tested @ 1950V DC for 60 s	240V (continuous), Reinforced Insulation Type, channel to system Type tested @ 3250V DC for 60 s	
North American temp code	T4		

- (1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).
- (2) RTB hold down screws should be tightened by hand. They should not be tightened using a power tool.

Input Specifications – 2085-IA8 and 2085-IM8

Attribute	2085-IA8	2085-IM8
Number of Inputs	8	
Voltage category	120V AC	240V AC
Operating voltage range	74...120V AC	159...240V AC
Off-state voltage, max	20V AC	40V AC
Off-state current, max	2.5 mA	
On-state current, min	5.0 mA @ 74V AC	4.0 mA @ 159V AC
On-state current, max	12.5 mA @ 120V AC	7.0 mA @ 240V AC
Input impedance, max	22.2 k Ω	
Inrush current, max	450 mA	
Input filter time Off to On On to Off	≤ 20 ms	
IEC type compliance	Type 3	

Output Specifications – 2085-OA8

Attribute	2085-OA8
Number of Inputs	8
Voltage category	120V/230V AC
Operating voltage range	120...240V AC
Output voltage, min	85V AC
Output voltage, max	240V AC
Off-state current, max	2.5 mA
On-state current, min	10 mA per output
On-state current, max	0.5 A per output
On-state current, per module, max	4 A
Off-state voltage drop, max	1.5V AC @ 0.5 A 2.5V AC @ 10 mA
Fusing	Not protected. A suitable rating fuse is recommended to protect outputs.